Halitosis and the pH variation with four mouthwashes

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Introduction: It is estimated that the prevalence of halitosis, varies between 2-44% at world population (1). It is suggested that the oral pH value is an important factor on the oral microbiota composition which has impact in gaseous breath constitution (2).The aim of this study was to compare the effect of four mouthwashes on salivary pH values, over time.

Materials and Methods

Halitosis prevalence was measured in 40 individuals, randomly selected, from the 5th year of Dentistry Course/ISCEM, when they had values ≥2 (Organoleptic - OL) and ≥75ppb (Halimeter®). A cohort study, pH values, was conducted with 40 individuals, randomly allocated to four groups (GA;GB;GC;GD)

Each group (n=10) performed a mouthwash (15ml, 2x/day, 1 min). GA- aqueous extract of C.burmannii [30g/L]; GB- aqueous extract of C.burmar [60g/L]; GC- positive control of Chlorhexidine (CHX), 0,06%; GD- *ultra*De formerly RetarDext

The pH values were obtained from a saliva collected in the 3 times of study (t=0min, t=15min, t=7days). Exploratory and descriptive analysis of the data was performed by SPSS 21.0

	T= 0 min (Initial)	*T=15min (Mask Effect)*	*T=7dias (Therapeutic Effect)*
Group A	7,45±0,28	7,58±0,22	7,43±0,20
Group B	7,30±0,24	7,46±0,24	7,27±0,25
Group C	7,42±0,22	7,78±0,26	7,34±0,21
Group D	7,56±0,20	7,62±0,18	7,56±0,18

Table 1: Variation of pH values during the three times of the study

Results and Discussion: At, t=0 the pH values obtained were: GA-7,45±0,26; GB-7,30±0,24; GC-7,42±0,22 and GD-7,56±0,20. At, t=15min, the pH values were: GA-7,58±0,24; GB-7,46±0,24; GC-7,78±0,26 and GD-7,62±0,18. The increase of pH values in group C (CHX) can be explained because this substance presents a retention extended in the oral cavity after the mouthwash. After 7 days the levels were: GA-7,43±0,20; GB-7,27±0,25; GC-7,34±0,21 and GD-7,56±0,18 (Table 1).

Conclusion and Clinical implications: Salivary mean pH values are not influence by these four mouthwashes. It was demonstrated that these mouthwashes, with aqueous extract of C. burmannii not influence the conditions of pH values in the oral cavity.

References

1. Scully, C., & Greenman, J. (2012). Halitology (breath odour: Aetiopathogenesis and management). Oral Diseases, 18(4), 333–345. doi:10.1111/j.1601-0825.2011.01890.x
2. Tolentino, E., Chinellato, L. & Tarzia, O. (2011). Saliva and tongue coating pH before and after use of mouthwashes and relationship with parameters of halitosis. Journal of Applied Oral Sci, 19 (2), 90–94.